

### Abstract

A memory device includes a number of terminals for transferring input data and output data to and from a memory array. The memory device includes an auxiliary circuit for receiving input auxiliary information associated with the input data and for generating output auxiliary information associated with the output data. The input and output auxiliary information include inverting codes, parity codes, temperature information or time delay information. The input and output auxiliary information are transferred to and from the memory device on the same terminals that the input data and the output data are transferred.

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